



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/626,246

07/24/2003

Christopher J. Elliott

10123/00601

1009

41696 7590 02/24/2010

VISTA IP LAW GROUP LLP  
12930 Saratoga Avenue  
Suite D-2  
Saratoga, CA 95070

EXAMINER

HOUSTON, ELIZABETH

ART UNIT

PAPER NUMBER

3731

MAIL DATE

DELIVERY MODE

02/24/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/626,246	<b>Applicant(s)</b> ELLIOTT, CHRISTOPHER J.	
	<b>Examiner</b> ELIZABETH HOUSTON	<b>Art Unit</b> 3731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-12,24 and 26-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-12,24 and 26-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. Claims 1, 2, 6-10, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kupiecki (USPN 5, 980, 514) in view of Dormandy JR (US 5,382,260)**

3. Kupiecki discloses an embolic coil comprising an elongated core element (Fig 8, 204) formed of a shape memory material, nitinol, (Col 14, line 16) and movable between a straightened first configuration and a shape memorized second coiled configuration; and an elongated outer element (202), which in the first configuration, is wound around the elongated core element to form a primary coil shape that is substantially a cylindrical coil of the embolic coil and formed of platinum (Col 14, line 18). It is inherent that the shape memory material, of which the elongated core element is formed, is in an austenitic phase at an operation temperature of the embolic coil. The memorized shape of the elongated core is a coil or spiral (Fig. 8). The secondary coil (core element) has a secondary coil memorized shape, wherein, when heated to a temperature above a critical temperature of the shape memory material, the secondary coil causes the primary coil to follow the secondary coil shape (Col 14, lines 33-35).

4. Kupiecki does not disclose that the coil has fibers. However Dormandy discloses an embolic coil comprising polymeric fibers (22), that are looped through the turns of the coils (Figs 2-4; C3:L39-60) such that they are gripped between adjacent coil of the primary coil and held in place therebetween by friction (C3:L58-60, note there is necessarily friction between the coil and the fiber and that the looping is the sole source of holding it in place). It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the fibers into the coil in order to increase the diameter of the coil and the surface area thereby increasing thrombogenicity. [Note that the outer primary coil (202) is only secured at the ends (C14:L7-12) allowing for the fibers to be wrapped and around and between adjacent coils.]

**5. Claims 11, 12 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kupiecki in view of Dormandy in view of Ferrera (USPN 6,171,326).**

6. Kupiecki in view of Dormandy discloses all the limitations of the instant invention substantially as claimed as stated above except for the elongated outer element comprising a platinum wire co-wound with a shape memory material as in claim 12, fiber retention grooves formed on the core element as in claim 11 or applying cold work to the outer element as in claim 5.

7. With respect to claim 12, Ferrera discloses an embolic coil that incorporates the use of a multi-stranded micro-cable comprising both shape memory strands and radiopaque strands that can be platinum (Figs. 5 and 6 and Col 6, line 47 – Col 7, line

42). The advantage of using a multi-stranded cable is the relative flexibility and resistance to kinking compared to a single wire resulting in less trauma to surrounding tissue and ease of placement in small body cavities.

8. It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the use of the multi-stranded micro cable into the embolic coil to result in a device where the elongated outer element comprises a platinum wire co-wound with a shape memory material wire in order to achieve the advantages stated above.

9. Regarding claims 11 and 27-29, the resultant combination of Ferrera's multi-stranded cable with the base device provides fiber retention grooves as claimed (Note the circumferential and spiral grooves formed in between each strand in Fig 4, as well as the circumferential and spiral groove formed by the wrapped cover (56) in Figs. 10a and 10b).

### ***Response to Arguments***

10. Applicant's arguments filed 11/16/09 have been fully considered but they are not persuasive. Applicant argues that Dormandy does not teach that the fibers are frictionally gripped between the adjacent coils. However, examiner asserts that the fibers are in fact gripped between adjacent coils (as explained on pages 9 and 10 of the Decision on Appeal 06/29/09). With respect to the limitation "frictionally gripped" examiner asserts that there necessarily is friction between the coil and the fiber and

the friction does in fact play a role in keeping the fibers in place since there is no other means of holding the fiber in place.

11. Applicant argues that there is no reasonable means for incorporating the wound fibers around the coils of Kupiecki since the coil is necessarily tightly wound to the inner core. However, Kupiecki does not disclose that the coils must be tightly wound and further discloses that the coil is only adhered to the inner core at the ends. Thus it would be well within the skill of the ordinary artisan to determine how to incorporate the fibers in the manner taught by Dormandy during the manufacturing of the coil of Kupiecki. A person of ordinary skill has good reason to pursue the known options within his or her technical grasp if it yields predictable results.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3731

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH HOUSTON whose telephone number is (571)272-7134. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. H./  
Examiner, Art Unit 3731

/Anhtuan T. Nguyen/  
Supervisory Patent Examiner, Art Unit 3731  
2/22/10